

REMARKS / ARGUMENTS

The action by the Examiner of this application, together with the cited references have been given careful consideration. Following such consideration, claim 2 has been cancelled, claims 4-18 remain unchanged, and claims 1 and 3 have been amended to define more clearly the patentable invention the applicant believes is disclosed herein. This amendment is presented according to "revised amendment practice" 37 C.F.R. 1.121 effective July 30, 2003. It is respectfully requested that the Examiner reconsider the claims in their present form, together with the following comments, and allow the application.

As the Examiner well knows, the present invention is generally directed to a computer having a case in which at least one cooling device and at least one electrical component to be cooled, e.g., a CPU, are arranged. Conventional computers have cases that have an opening in one wall. Fans are utilized to draw ambient air for cooling through the opening and into the case. A problem with conventional computers is that air flow inside the case is obstructed by various components within the case. As a result, the ambient air drawn through the openings in the case is mixed with warmer air inside the case before acting to cool a component. A known solution to the problem is to include a conduit to conduct ambient air to a CPU. However, such a conduit requires a large amount of space and expense. The present invention provides a computer having a case in which a ventilation opening is disposed in a region that is offset toward an opposite side of the case. In other words, the present invention provides a case in which a ventilation opening is recessed in one side wall of the case such that the ventilation opening extends toward an opposite side wall of the case. In this manner, the likelihood of cooler ambient air mixing with

warmer air inside the case before the air reaches the CPU is reduced. Furthermore, the present invention reduces the distance that ambient air flows through the case before reaching the CPU thereby reducing the amount of heat that can be gained by the ambient air before it reaches the CPU.

The claimed computer includes a case in which a cooling device and an electrical component to be cooled are arranged. The case has a ventilation opening. The ventilation opening is arranged on a side of the case opposite to the electrical component. The cooling device is arranged between the ventilation opening and the electrical component. In this manner, a substantially rectilinear air flow onto the component is formed inside the case. In one embodiment, the cooling device includes a fan disposed between the component to be cooled and the ventilation opening such that air is directed onto the component to be cooled.

The ventilation opening of the claimed computer is disposed in a region of the case that is offset towards an opposite side of the case. In other words, the claimed ventilation opening is recessed in one side wall of the case such that ventilation opening is closer to the electrical component to be cooled than conventional ventilation openings. As a result, cooler ambient air drawn through the ventilation opening can flow in a direct air stream along a short path from one side of the case to the opposite side where the component to be cooled i.e., a CPU, is affixed. It is believed that one advantage of the claimed computer is that the ambient air is not substantially heated inside the computer case before it reaches the component to be cooled. Another advantage is that a fan having a lower rotational speed can be used thus reducing the amount of noise associated with the operation of the fan.

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It is respectfully submitted that none of the cited references teaches, suggests, or shows a computer as presently set forth in the claims, or the advantageous thereof. In response to the Examiner's rejections, claim 1 has been amended to indicate that "wherein said ventilation opening (4) is disposed in a region of the case and said region is offset towards an opposite side of the case." Thus, the claimed structure reduces the length of the path that cooler ambient air must flow from the ventilation opening to the electrical component to be cooled as described above.

The Examiner has objected to claim 3 due to informalities. The applicant has amended claim 3 accordingly.

The Examiner has rejected claims 1-10, 13, 15, and 18 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,654,242 B2 to Ogawa. The Ogawa reference teaches a computer having a case that has a plurality of ventilation openings therethrough. The ventilation openings are not disposed in a region of the case that is offset toward an opposite side wall of the case.

The applicant respectfully submits that the Ogawa reference does not teach, suggest, or show a ventilation opening that is offset towards an opposite side of the case as is claimed. Therefore, the applicant respectfully submits that claim 1 is now in condition for allowance. Because claims 3-18 depend from claim 1, the applicant respectfully submits that they too are in condition for allowance.

The Examiner has rejected claims 11-12 and 14 under 35 U.S.C. 103(a) as being unpatentable over Ogawa in view of U.S. Patent No. 6,404,630 to Lai.

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Claims 16 and 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Ogawa reference in view of U.S. Patent No. 6,778,390 B2 to Michael.

Neither the Lai reference or the Michael reference teach, suggest, or show a ventilation opening “disposed in a region of the case and said region is offset towards an opposite side of the case.”

The prior art made of record and not relied upon has also been reviewed. It is respectfully submitted that none of these additional references teach, suggest, or show the applicant's invention as defined by the present claims.

In view of the foregoing, it is respectfully submitted that the present application is now in proper condition for allowance. If the Examiner believes there are any further matters which need to be discussed in order to expedite the prosecution of the present application, the Examiner is invited to contact the undersigned.

If there are any fees necessitated by the foregoing communication, please charge such fees to our Deposit Account No. 50-0537, referencing our Docket No. BE8794US.

Respectfully submitted,



Mark Kusner, Reg. No. 31,115

Date: November 1, 2005

KUSNER & JAFFE
Highland Place – Suite 310
6151 Wilson Mills Road
Highland Heights, Ohio 44143
(440) 684-1090 (phone)
(440) 684-1095 (fax)

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CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8

I hereby certify that this correspondence (along with any paper referenced as being attached or enclosed) is being deposited on the below date with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: November 1, 2005



Laura K. Cahill